THE ANALYSIS OF NEGATION IN NAVYA NYĀYA

By

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The Concept of Negation has been subjected to a threadbare analysis by the logicians of the Navya Nyāya School. Like the founders of Symbolical Logic in modern times, the Naiyayikas, in their own days and in their own manner, employed a highly specialised technique and terminology to express subtle logical distinctions. The object of this paper is to give an account of some distinctions and specifications made by the Naiyayikas in connection with negation.

A negation can be understood only with reference to something which is negated[1], e.g. the absence of a pot can be understood only with reference to the pot. In this example, the pot (ghata) is the counterpart (pratiyogī) of the non-existence (Abhāva).

A non-existence and its counterpart cannot reside in the same locus (ādhāra, adhikaraṇa or āśraya) simultaneously, e.g. both a pot (ghata) and absence of pot (ghatābhāva) cannot co-exist in the same spot, at the same time, in the same manner. The relation between a thing and its non-existence is one of contradiction or incompatibility (i.e. pratibadhya-pratibandhaka bhāva). In other words, the affirmation of the one means the denial of the other and vice versa.

Symbolically, this may be expressed as:

$\sim(p. \sim p)$

The Naiyayikas, as a rule, accept the principle that the negation of negation amounts to affirmation[2]. That is to say

$\sim\sim P \equiv P$

They also lay down the formula that the negation of negation of negation is equivalent to negation[3], i.e.

$\sim\sim\sim p \equiv \sim p$

A negation can be understood in its different aspects with the help of the following factors:

(*i*) *Anuyogi* i.e. the locus of the non-existence.

There is no pot on the ground

(Bhūtale ghatah na asti)

Here the locus of the non-existence is the ground (Bhūtala). The locus or substratum of existence is called *anuyogī*[4]. The *anuyogitā* in the above

[1] Abhāvatvam Pratiyogitā-jnānādhīna jnān viṣayatvam

[2] Pratiyogyabhāvānvayayoh tulya yogakshematā.

[3] Tṛtiyābhāvascha prathamābhāva rupah.

[4] Yasmin abhāvah sah anuyogi.

example lies in the ground. This non-existence will be described therefore as "a non-existence determined by the locusness lying in the ground[5]."

(*ii*) *Pratiyogi*, i.e. the counterpart of the non-existence.

There is no pot on the ground.

Here the counterpart of the non-existence is 'Pot'. Such counterpart is called *pratiyogī*. In other words, a pratiyogī is that thing of which there is non-existence[6]. In the above example, the *pratiyogītā* lies in the pot. Hence this non-existence will be described as "a non-existence of which the pratiyogitā lies in the pot[7]."

(*iii*) *Anuyogitāvachchedaka Dharma* (i.e. the adjunct which limits the scope of the substratum of non-existence).

There is no pot on the ground.

Here it is not clear whether the locus of non-existence is 'this ground' or 'ground in general.' So it has to be specified. This specification can be made with the help of an adjunct or limitor (*avachchedaka*) which qualifies the locus. This is *known as anuyogitāvachchedaka dharma*. (Let us abbreviate it as a.d.) If it is meant that the absence of the pot lies 'in this ground', the a.d. will be 'this-ground-ness' (etat-bhūtalatva). If it is meant that the absence of the pot lies in ground-in-general (i.e. the pot is nowhere on the earth), then the a.d. will be simply 'groundness' (bhūtalatva). This latter non-existence will be described as "a non-existence determined by the locusness which is limited by the specifying adjunct, groundness[8]. The former non-existence will be described as "a non-existence determined by the locusness which is limited by the specifying adjunct "this-ground-ness[9]."

(*iv*) *Pratiyogitavachchedaka Dharma* (p.d.), i.e. the delimiting adjunct which specifies the nature of the counterpart of non-existence.

There is no pot on the ground.

It is not clear whether the pot denied here is a particular pot (Etat ghata) or pot-in-general (Ghata Sāmānya). Hence a specification is needed to show whether it is a case of generic absence (Sāmānyābhāva) or a specific absence (Viśeṣābhāva).

This is done with the help of an adjunct (avachchedaka) which specifies the nature of the counterpart of the nonexistence. If the non-existence is of 'Pot-in-general', the p.d. will be 'Potness' (ghatatva). If the non-existence is of a particular pot, the p.d. will be 'this-pot-ness' (etat-ghatatva). In other words, the former non-existence will be described as "a non-existence the counter-part of which is limited by the adjunct of Potness[10]"; the latter will be described as "a non-existence the counterpart of which is limited by the adjunct of 'this-pot-ness'".

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[5] Bhūtalaniṣṭha-anuyogitā nirūpitah abhāvah.

[6] Yasyābhāvah sah pratiyogī.

[7] Ghatanisṭha-pratiyogitākah abhāvah.

[8] Bhūtalatvāvachchinna bhūtalaniṣṭha anuyogitā nirūpitah abhāvah.

[9] Etat-bhūtalatvāchchinna bhūtalaniṣṭha anuyogitā nirūpitah abhāvah.

[10] ghatatva dharmāvachchinna ghataniṣṭhá-pratiyogitākah abhāvah.

[11] etat ghatatvāvachchinna ghataniṣṭha pratiyogitākah abhāvah.

(*v*) Pratiyogitāvachchedaka Sambandha, (p.s.) i.e. the adjunct delimiting the relation of the counterpart of non-existence.

There is no pot on the ground.

This proposition may be interpreted in two ways:

It may be taken to mean that—

(*a*) the pot does not exist by way of contact[12] ,i.e. the pot is not conjoined to the ground.

(*b*) That the pot does not exist by way of inherence[13], i.e. the pot is not inherent in the ground.

In (*a*), the p.s. of non-existence will be the relation of conjunction, in (*b*) the p.s. will be the relation of inherence. In other words, (*a*) will be described as 'a non-existence the counterpart of which is limited by the relation of conjunction[14] and (*b*) will be described as a non-existence, the counterpart of which is limited by the relation of inherence[15].

Thus a negative proposition like

There is no pot on the ground

can lend itself to the following ways of interpretation, viz:

(*i*) There is no pot on any ground by way of contact.
(*ii*) There is no pot on this ground by way of contact.
(*iii*) There is not this pot on any ground by way of contact.
(*iv*) There is not this pot on this ground by way of contact.
(*v*) There is no pot on any ground by way of inherence.
(*vi*) There is no pot on this ground by way of inherence.
(*vii*) There is not this pot on any ground by way of inherence.
(*viii*) There is not this pot on this ground by way of inherence.

The first of these will be described as a non-existence the locusness of which is limited by 'Ground-in-general', the counterpartness of which is limited by 'Pot-in-general' and the relation of counterpart of which is limited by "Contact".[16]

The p.d. may be one or more than one.

There is no pot (Ghataha asti).

In this case, there is absence of pot (ghatābhāva). The counterpart of this absence is 'Pot' (ghata). The p.d. is potness (ghatatva).

Now take another case,

There is no blue pot.

(Nīlah ghatah na asti)

Here we deny the pot as qualified by blueness. It is a qualified absence (Viśiṣṭābhāva). The counterpartness lies in 'Pot of blue-colour' (Nīlatva-viśiṣṭa ghata). The p.d. here is potness (p)+blueness (*b*). What is denied is the conjunct p+b. Such negation is called Ubhayābhāva (i.e. absence

[12] Samyogena ghatah na asti.
[13] Samavāyena ghatah na asti.
[14] Samyoga sambandhāvachchinna pratiyogitākah abhāvah.
[15] Samavāya sambandhāvachchinna pratiyogitākah abhāvah.
[16] Bhūtalatva-dharmāvachchinna-bhūtalaniṣṭha-anuyogitā nirūpita Samyoga Sambandhāvachchinna ghatatva dharmāvachchinna ghataniṣṭha pratiyogitakah abhāvah.

of both taken together). The absence-of-blue-pot (Nīla ghaṭābhāva) resides in all the loci where

(*i*) There is potness, but no blueness,

(*ii*) There is blueness, but no potness,

(*iii*) There is neither potness nor blueness.

In other words, Ubhayābhāva may be conditioned by the absence of the first term, of the second term, or of both.

In the above example the counterpart of absence can be either pot (p) or blue (b) or both (pb).

That is to say, the p.d. lies in potness (ghatatva), blueness (nīlatva) or both (ubhayatva). Symbolically speaking,

$\sim(p.b) \equiv \sim p \vee \sim b$

It can cover the following cases:

$$p.\sim b$$
$$\sim p.\ b$$
$$\sim p.\sim b$$

Thus we find the Naiyayikas applying the principle that the negation of conjunction is equivalent to alternative denial of the conjuncts.

The range of 'Blue Pot' is more limited than that of 'Pot' or that of 'Blue' taken separately. But when we come to the non-existence of Blue Pot (BP), we find that its range is wider than that of B or P taken singly. For BP resides in all loci of B and P, but not vice versa. That is to say, B or P does not reside in all the loci of BP. In other words, while 'Blue Pot' is the logical product of the two classes, Blue and Pot (i.e. $B \cap P$) the non-existence of Blue Pot is the logical sum of the two classes B and P (i.e. $B \cup P$).

Suppose, P is a generic term standing for 'Pot', and $P^1, P^2, P^3 \ldots\ldots$ n are specific terms standing for the pot of Devadatta, the pot of Brahmadatta, the pot of Yajnadatta, etc. ...., then the sum total $p^1, p^2, p^3 \ldots\ldots P^n$ will be equal to P. Now take the case of absence. The heap of specific absences, eg., p^1—p^2—$p^3 \ldots\ldots p^n$ is known as Abhāvakūta. Here, every locus of -p^1 is not a locus of -p, but that which is a locus of —p^1,—p^2—$p^3 \ldots\ldots p^n$ will be a locus of —P. That is to say

$-p^1 \ -p^2 \ -p^3 \ldots\ldots p^n \equiv -p.$

The Naiyayikas express this by saying that the counterpartness to the heap of specific absences is limited by the class character.[17]

The relation between P and p^1 is one of pervasion (Vyāpti). P pervades p^1, p^2 etc. That is to say, wherever there is p^1 or p^2 etc, there is P. Thus p^1, p^2 etc. are pervadends (Vyāpya) and P is the pervader (Vyāpaka). But this relation is reversed in the case of negation. —P does not pervade —p^1, —p^2 etc. but is pervaded by them. Hence, the absence of p^1 does not imply the absence of P. But when we take the entire heap of absences, the denial of all specifics taken together amounts to the denial of the General. In short $\overline{(p^1+p^2+p^3 \ldots\ldots +p^n} \equiv \overline{P}$. That is why the

[17] Viśeṣābhāvakutānām Samanyadharmavachchinna pratiyo-gitākatvam.

Naiyayikas regard P as the counterpart of the heap of absences $-p^1$, $-p^2$ etc.).

Now let us take another case

The pot is either blue or red.

The above proposition is an alternative proposition. It is true if one of the alternatives (anyatara) is true, it is false if none of the alternatives is true. The negation of both alternatives is called anyatarābhāva.

The Naiyayikas define *Anyatara* as that which possesses a mutual absence of which the counterpartness is limited by two mutual absences.[18] According to this definition, the proposition:

The pot is either blue or red

(Ghataha nīla raktayoh anyatarah)

will mean that "the pot possesses that which is different from *that which is both* different from blueness and redness". In short, either blueness resides in the pot or redness resides in the pot.

The negation of such an alternative proposition amounts to the denial of both the alternatives; (anyatarābhāva), e.g.

The pot is neither blue nor red

Symbolically,

$$\sim(b \vee r) \equiv \sim b . \sim r.$$

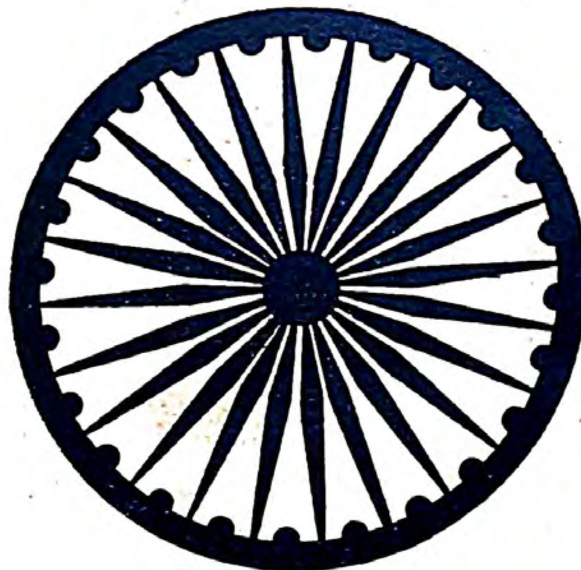
The Naiyayaikas thus apply the principle that the contradictory of an alternative proposition is a conjunctive proposition (i.e. the denial of alternation is equivalent to a conjunction of denials).

A comparative study is thus apt to reveal that many formulas of mathematical logic were applied or tacitly assumed in Navya Nyāya.

[18] Bhededvayāvachchinna pratiyogitāka bhedevat.

THE JOURNAL
OF THE
BIHAR RESEARCH SOCIETY

VOL. XLIV SEPTEMBER—DECEMBER, 1958 PARTS III & IV



PUBLISHED BY
THE BIHAR RESEARCH SOCIETY, PATNA

Price Rs. 10/-